

Deployable Versus Survivable

Israel and Russia have developed heavier, not lighter, armored personnel carriers

by Sergeant First Class Ira L. Partridge

Since October 1999, when Army Chief of Staff General Eric Shinseki and Secretary of the Army Louis Caldera unveiled a “vision for a more strategically responsive”¹ Army, much discussion has been generated on new vehicles and how they will be employed. Discussions about types, capabilities, and doctrinal employment have been interesting, but fail to mention a new class of vehicle. Referred to as heavy APCs, this new class is important when taken with the fact that most Interim Brigade Combat Team (IBCT) discussions invariably mention Mounted Operations in Urban Terrain (MOUT), and, in MOUT operations, deployability does not always equal survivability. This is reflected in recent combat operations conducted by the Russian and Israeli armies in urban environments. If this new strategy is to develop a force that is dominant at every point in the spectrum of operations (deployable, agile, versatile, lethal, sustainable, and *survivable*²) one has to ask whether a lightly armored wheeled vehicle is really the right choice when considering combat in urban-like settings. The concept of rapidly deploying lightly armored vehicles to MOUT environments is a flawed one if the populace is hostile.

If the IBCT intends to be a force with a “weapons platform (that has) better ballistic protection” and that can “do what is necessary to protect the force”³ then one has to again ask if a wheeled lightly armored vehicle is really the right choice?

Picking a Mobile Gun System

Within two months of General Shinseki’s announcement, an assortment of vehicles were tested at Fort Knox to determine which would provide the common platform chassis for the IBCT, and which would become the Mobile Gun System (MGS) providing the new unit’s armored fist. After several months of testing and debate, a decision was announced in November 2000 that selected the Light Armored Vehicle (LAV) III as the common vehicle platform chassis. A family of ten vehicles will be fielded as the Interim Armored Vehicle (IAV) that is optimized for close, complex, or urban terrain⁴ environments.

In contrast, Israel and Russia — two armies that have recently fought in urban environments — instead developed heavier APCs for combat operations in MOUT and mountainous terrain. Both countries developed their heavy APC versions for similar force protection reasons, after experiencing losses while fighting in urban and restrictive terrain. The developments attempted to counter the proliferation of antitank guided missiles (ATGM) and rocket-propelled grenades (RPG) used by fighting forces throughout the world, a situation that has increased the threat level to mounted infantry forces.

Heavy APCs from Israel

Israel learned from combat operations in southern Lebanon that a dedicated, sometimes fanatical, individual soldier

armed with an RPG could kill most APCs if he attacked from the side, back, or above. By using guerrilla tactics and a concealed ambush, a single soldier or small group can readily kill an entire squad of mechanized infantry if they are mounted. These experiences resulted in the development of three vehicles capable of protecting, delivering, and deploying a squad of infantry to any point on the battlefield.

The first of these vehicles is the up-armored M113, which adds reactive armor to protect the hull. This modification to Israel’s fleet of M113 APCs saw action in southern Lebanon⁵ beginning in 1996. The explosive reactive armor (ERA) suite is produced by the Rafa’el Armament Development Authority, Israel’s state armament development agency. The concept simply modifies an existing vehicle, giving it enough protection to allow it to operate in urban or restrictive environments with a higher degree of force protection.

The second vehicle, classified as a heavy APC, is based on the Centurion tank hull. It is designated the Nakpadon by the Israelis, and uses ERA and add-on ballistic armor skirting, with the tank turret replaced with a square, built-up crew compartment. A modification allows troops to exit the vehicle from the rear.

The third vehicle is another heavy APC based upon a T-55 tank hull called the Achzarit, which also replaces the tank turret with a crew compartment. To deploy dismounts, the Ach-



Up-armored Israeli M113, at left, has been equipped with explosive reactive armor (ERA) to enhance its protection against the shaped charge warheads of missiles and RPGs.

The Israeli *Nakpadon* heavy APC, right, is a Centurion tank hull with ERA and an armored crew compartment added.



zarit includes a protected clamshell door for dismounting troops from the right rear of the vehicle. This was accomplished by repositioning the engine along the left side of the hull, leaving room for a passage on the right side.

Each of the Israeli heavy APC variants is designed to protect and deliver a squad of dismounted infantry to the battlefield. Its armament of heavy machine guns is consistent with standard APC armament that has been used since the 1960s.

Hard Lessons for the Russians

Russian heavy APC development was based on their catastrophic urban combat experience in Chechnya. Their heavy APCs are in the Russian tradition of vehicles that carry a multitude of crew-served weapons that can be used to support dismounted infantry.

In December of 1994, the Russian Army entered the breakaway republic and attempted to seize the capital of Grozny from the march.⁶ The Russian Army moved into Grozny on the night of 31 December and morning of 1 January 1995, hoping to quickly take the presidential palace with few losses.⁷ To Russian military leaders, the plan appeared sound and they expected little resistance. It called for an advance on three axes that would meet at the palace.

The main advance along the northern axis had a mission to capture the main railway station located several blocks from the palace.⁸ However, when units from the west and east failed to move into Grozny, the units in the north were left unsupported and vulnerable. The battle for the Grozny railway station became a classic example of how not to conduct combat operations in urban terrain, and the tactical ramifications have been scrutinized in many forums. What is important to this discussion is that the 131st Motorized Rifle Brigade lost

102 of 120 armored vehicles to dismounted Chechen hunter-killer teams. Chechen forces were successful for many varied reasons, including their organization of fighting units, dedication to their cause, and the inherent vulnerability of the Russian vehicles they faced.

The Chechen forces in Grozny were organized into combat groups of 15 to 20 personnel, further subdivided into three- to four-man fighting cells.⁹ Each cell consisted of an antitank gunner with RPG-7 or RPG-8, a machine gunner, and a sniper. The sniper and machine gunner would engage a vehicle to pin down supporting infantry and keep the vehicle buttoned-up while the antitank gunner would engage and kill the armored vehicle. Teams would deploy at ground level, on second and third stories, and in basements with normally five or six teams attacking a single vehicle simultaneously. Hunter-killer teams would also trap columns in city streets where destruction of the first and last vehicles would trap the column, thus allowing for total destruction of the rest.

Vehicle capabilities also played a critical role in the debacle. Russian tank guns were incapable of elevating or depressing far enough to be able to deal with these hunter-killer teams fighting from basements and second- or third-story positions, and simultaneous attacks from five or six teams negated the effectiveness of the tank's machine guns. Additionally, ZSU 23-4s and 2S6s — with superior elevation and depression range — which were attached to respond to this threat, became lightly armored priority targets, and were usually the first killed. Lightly armored vehicles such as BMPs, BMDs, and BTRs stood little chance since they could be killed from almost any angle. Tanks fared better, but were still vulnerable when attacked from the

side, rear, top, driver's hatch, and any area not covered by ERA.⁹

Russian Heavy APC Development

After the catastrophic losses taken at the battle for the Grozny railway station, the need became apparent to protect motorized infantry elements from modern AT weapons in urban terrain.¹⁰ The result was a joint project from the Design Bureau of Transport Machine-Building and the Transport Machine-Building Plant. They produced a prototype heavy APC called the Bronye-transporter-Tyazhelyy (BTR-T),¹¹ a T-55 hull-based vehicle with the capability to withstand ATGM attacks on a par with main battle tanks.¹²

The large number of T-55 tanks available were predominately outdated and ineffective, except those already upgraded with add-on ERA and fire control system improvements. They became a resource for conversion to the BTR-T. The most distinguishing feature of the BTR-T is a low-silhouette turret mounted on the tank chassis that is capable of mounting various gun-missile armaments. Protection is achieved by the heavier armor of the tank chassis and additional built-on ERA. The vehicle crew consists of a driver and commander, and has space for five to seven dismounts. Several weapon systems equip the different variants: The BTR-T or H-APC has a one-man turret with the 2A42 30mm automatic cannon and Konkurs ATGM system firing the 9M113 AT (AT-5 Spandrel) missile.¹³ The variant with a NSV 12.7mm machine gun is called a Scout-Patrol Vehicle. Other variants include a turret mounted with a AGS-17 automatic grenade launcher or 2A38 twin-barrel submachine gun. The vehicle has its drawbacks. Although force protection is achieved, the BTR-T is too slow to keep up with modern tanks, making it unsuitable for maneuver warfare.



Israeli *Achzarit* heavy APC, at left and above, is based on a T-55 tank hull with the engine repositioned to create space for a clamshell door exit at the rear, as seen in the open position in photo at right.



Upper left, the BTR-T, or H-APC, mounts a 30mm cannon in a low, one-man turret and carries five to seven dismounts. The hull is an obsolete T-55, its protection improved with an ERA suite.

At left is the scout-patrol version, mounting an NSV 12.7mm heavy machine gun. Other weapon systems can also be fitted.

Another heavy APC concept, above, is the BMP-T, based on the T-72 chassis, and capable of much better battlefield speed.

Further development of the heavy APC concept has resulted in the BMP-T, which was introduced as a concept at the VTTV-Omsk-99 exhibition in June 1999, and shown at the 2nd Urals Exhibition of Armaments and Military Equipment held in early 2000 at Nizhni Tagil. The BMP-T is described as a tank support combat vehicle and is a further development of the heavy APC concept, drawing on experience gained with the BTR-T and Chechen combat operations. Designers based the BMP-T on the widely produced T-72 tank chassis. It features ERA on the frontal armor plate, ERA-applied screens to protect side plates, and grilled shields to protect the hull area.¹⁴

Main armament consists of a 2A42 30mm automatic cannon and coaxially mounted AG-30 or AGS-17A grenade launcher stabilized in two planes. Additionally, it has an AT-14 Kornet ATGM system provided with a semiautomatic jam-proof laser-guidance system. Commander and gunner are equipped with identical PNK-4S sights capable of daylight or thermal viewing and stabilized in elevation to effectively fire all weapons from either position. Additional weapons, arranged on the fenders, include two AG-30 grenade launchers or two 7.62mm PKTM machine guns with an electromechanical drive and day/night sight combined with an Agat-MR optronic sight. A built-in dozer blade can be used for

digging in and a KMT-8 tread-width mine plow with EMT electromagnetic device can be mounted at the front of the vehicle. Since the BMP-T is based upon the T-72 chassis, it is better suited to keep up with armored maneuver formations.

Conclusion

The creation of an IBCT type of force has long been needed. However, the concept of deploying the types of vehicles selected for the IBCT into an openly hostile MOUT or restricted environment is flawed. One has to visualize one of the Russian POWs from Grozny that did not know who they were fighting with, who they were fighting against, or what their mission was. They understood their mission as simply an occupation type police action and knew nothing of the combat aspects until their vehicle was shot out from under them.

Tactically, we hope the U.S. Army would never make those mistakes. But understanding the mission and fighting tactically sound doctrine will not stop an RPG from penetrating the light armor of a rapidly deployable vehicle moving into a situation similar to Grozny. The American public would never tolerate losses like those taken in that battle, because we have a much lower tolerance for battlefield losses. The public would never accept losing anywhere near the 85 percent of com-

bat vehicle losses that a brigade-sized unit suffered during that battle.

The LAV III is a good selection for the IBCT because of all the reasons brought forth in the vision statement of GEN Shinseki. But historically, we must remember that Americans have not always been on the cutting edge of vehicle development at the start of combat operations. The success of Desert Storm can be attributed, in one respect, to the capability mismatch between like classes of vehicles. The Army may not need to develop a heavy APC, but to believe the LAV III will fare any better than the BTRs and BMPs did in Grozny is ill-advised. If force protection is a guiding tenet of vehicle selection, then it may not be prudent to use the rapidly deployable LAV III in hostile MOUT operations. Deployability does not always equal survivability, and a vehicle that will not survive on the battlefield is simply a rolling coffin, regardless of how quickly the vehicle was deployed.

This article was meant to introduce Israeli and Russian heavy APCs and to raise the force protection shortcomings of a lightly armored vehicle in hostile MOUT operations, not to second-guess selection of the LAV III for the IBCT. This article was written in the spirit of the famous quote that reminds us that

Continued on Page 44

Deployable Vs. Survivable

from Page 14

those who do not learn from history are doomed to repeat it. Valuable lessons can always be learned from all combat operations, especially when those combat operations result in the development of new vehicles. All combat operations result in someone having to pay the "butcher's bill," and all soldiers would rather have the bill paid by the opposition.

Notes

¹"Army Announces Vision for the Future," (Army Public Affairs, 12 Oct 99).

²Ibid.

³Ibid.

⁴Gary Sheftick and Michele Hammonds, "Army selects GM to make Interim Armored Vehicles," (Army News Service, 20 Nov 00).

⁵*Janes Defense Systems Modernization*, May 99.

⁶Lester W. Grau, "Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechnya Experience," (*Red Star Thrust*, Jan 97).

⁷Timothy Thomas, "The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya III. The Battle for Grozny, 1-26 January 1995," (*Journal of Slavic Military Studies*, Vol. 10, No. 1, Mar 97), pp.50-108.

⁸MAJ Gregory J. Celestan, *Wounded Bear: The Ongoing Russian Military Operation in Chechnya*, (Foreign Military Studies Office, Aug 97).

⁹Thomas, pp.50-108.

¹⁰Grau.

¹¹Ibid.

¹²Eugene Yanko, "The Tank Becomes an Armored Personnel Carrier," (Russian Weapons Catalog, www.weapons-catalog.com).

¹³Russian Weapons and Military Technologies CD-ROM, BTR-T on the base of the T-55 tank/Exhibits, H-APC (BTR-T)/Exhibits, Scout-patrol vehicle/Exhibits, (VTTV-Omsk-99, Nov 99).

¹⁴Anatoly Ilyin, "Tank Support Combat Vehicle," (*Military Parade*, Sep 00).

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